Advanced Targeting Systems

1930 KELLOGG AVENUE
CARLSBAD, CA 92008 USA
01.858.642.1988 • WWW.ATSBIO.COM

Anti-CD38-SAP

TARGETED SAP CONJUGATE

[anti-mouse CD38]-streptavidin-saporin

Catalog Number: IT-96
Quantity: 25 micrograms
Format: PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4), no preservative.

Background: Targeted SAP conjugates are powerful and specific lesioning agents used in the technique known as Molecular Surgery. The ribosome-inactivating protein, saporin (from the seeds of the plant, *Saponaria officinalis*) is bound to a targeting agent (anything that is recognized on the cell surface and internalized). The targeted conjugate is administered to cells (*in vitro* or *in vivo*). The targeting agent seeks out and binds to its target on the cell surface. The conjugate is internalized, saporin breaks away from the targeting agent, and inactivates the ribosomes which causes protein inhibition and, ultimately, cell death. Cells that do not have the cell surface marker are not affected.
CD38 is a 42 kD glycoprotein, also known as T10. It is an ADP-ribosyl hydrolase, expressed on B cells, NK cells, subset of T cells, brain, muscle, and kidney. In the mouse, CD38 expression is downregulated on mouse germinal center B cells and plasma cells, whereas this is not the case for humans. By functioning as both a cyclase and a hydrolase, CD38 mediates lymphocyte activation, as well as adhesion and the metabolism of cADPR and NAADP. CD31 is the ligand of CD38.

Specificity & Preparation: This targeted toxin recognizes cells that express mouse CD38 (T10). Anti-CD38-SAP is a bonded conjugate of a rat monoclonal antibody to mouse CD38 and the secondary conjugate Streptavidin-ZAP containing the ribosome-inactivating protein, saporin.

Usage: Anti-CD38-SAP eliminates cells expressing mouse CD38 (T10). All other cells are left untouched. It is useful in retrograde transport (see Wiley *et al*, 1989). **There may be lot-to-lot variation in material; working dilutions must be determined by end user. If this is a new lot, you must assess the proper working dilution before beginning a full experimental protocol.**

Storage: Gently spin down material 5-10 seconds in a microfuge before use. Store the material in undiluted aliquots at –20°C. Material should be aliquoted to a convenient volume and quantity to avoid repeated freezing and thawing that can damage the protein content. Under these conditions, the material has a very stable shelf-life. Thawing should be done at room temperature or on ice. The thawed solution should remain on ice until use.
Do not use a reducing agent (such as dithiothreitol, beta-mercaptoethanol or ascorbic acid) with this material. It will inactivate the toxin.
This material is an extremely potent cytotoxin. Handling should be done by experienced personnel. Gloves and safety glasses are required when handling this product. Care in disposal is mandatory; autoclaving or exposure to 0.2 M sodium hydroxide will inactivate the material. All labware that comes into contact with this material should be likewise treated.

Advanced Targeting Systems

1930 KELLOGG AVENUE
CARLSBAD, CA 92008 USA
01.858.642.1988 • WWW.ATSBIO.COM

Anti-CD38-SAP
TARGETED SAP CONJUGATE

Scan to view all product references.

Selected References:

1. Wiley RG, Stirpe F, Thorpe P, Oeltmann TN (1989) Neuronotoxic effects of monoclonal anti-Thy 1 antibody (OX7) coupled to the ribosome inactivating protein, saporin, as studied by suicide transport experiments in the rat. *Brain Res* 505:44-54.
2. Han I, Pandala N, Haefeli L, Lang MJ, Stone EM, Mullins RF, Tucker BA (2024) Development of chemically induced choroidal injury models for the study and treatment of AMD. ARVO Annual Meeting 65(7):5382.

Control(s): BIgG-SAP rat

Safety:
Good laboratory technique must be employed for safe handling of this product. This requires observation of the following practices:

1. Wear appropriate laboratory attire, including lab coat, gloves and safety glasses.
2. Do not pipet by mouth, inhale, ingest or allow product to come into contact with open wounds. Wash thoroughly any part of the body which comes into contact with the product.
3. Avoid accidental autoinjection by exercising extreme care when handling in conjunction with any injection device.
4. This product is intended for research use by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. Advanced Targeting Systems is not liable for any damages resulting from the misuse or handling of this product.

To view protocol(s) for this and other products please visit: www.ATSbio.com/library/protocols